SR

ARTAMONOVA, M. V. et al., USSR Author's Certificate No 332059

	CuO	0.01-0.1
	Ag	0.2-0.7
with the addition of	Na_2O	0.5-3.8
and in excess of 100%	F_2	0.8-2
	Cl	0.5-2.5
	Br	0.3-1.2

2. A modification of this glass distinguished by the fact that the following are added (in wt.%):

Bi_2O_3	0.2-3
ZnO	0.1-1
PbO	0.01-0.5
CaO	0.5-5
MgO	0.5-5
GeO_2	0.5-6
K_2O	0.5-5.8
Rb_2O	0.5-7.5
MnO	0.01-1.5

1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--CRYSTALLIZATION OF SULFIDE CONTAINING SLAG GLASSES -U-

AUTHOR-(02)-CHERNYAKOVA, R.M., PAVLUSHKIN, N.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 357-61

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SULFIDE, GLASS CRYSTALLIZATION, CALCIUM OXIDE, ALUMINUM OXIDE, SILICON DIOXIDE, GLASS COMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0502 STEP NO--UR/0363/70/006/002/0357/0361

CIRC ACCESSION NO--AP0107107
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107107

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT WAS STUDIED OF SULFIDE S ON CRYSTN. OF SLAG GLASS IN THE CAOAL SUB2 O SUB3 SIO SUB2 SYSTEM, THE COMPN. OF WHICH LIES WITHIN THE CRYSTN. FIELD OF WOLLASTONITE NEAR THE BOUNDARY LINE WITH TRIDYMITE. THE CONTENT OF THE SULFIDE S USED VARIED FROM 0.1 TO 0.5PERCENT. THE RESULTS SHOW THAT THE PRESENCE OF SULFIDE S IN SLAG GLASSES INTENSIFIES THEIR TENDENCY TOWARDS SEGREGATION AND THEREBY CREATES THE PRECONDITION FOR THE SUBSEQUENT BULK CRYSTN. THE CONTENT OF THE SULFIDE S PRESENT IN THE GLASSES STUDIED HAS NO EFFECT ON THE PHASE COMPN. OF THE MATERIAL; IT DOES, HOWEVER, DET. TO A SIGNIFICANT DEGREE THE TOTAL AMT. OF THE PPTG. CRYST. PHASE AND THE PROPERTIES OF THE CRYSTD. GLASSES. THE CONCN. OF 0.3PERCENT IS THE OPTIMUM AMT. OF THE SULFIDE S ENHANCING BULK CATALYTIC CRYSTN. OF THE GLASSES STUDIED AS WELL AS MAKING FOR THE GREATEST CHANGE IN THEIR PROPERTIES DURING THE CRYSTN. PROCESS. UPON FURTHER INCREASE IN THE SULFIDE S CONTENT THE PROPERTIES OF THE FINISHED MATERIAL FOR ALL PRACTICAL PURPOSES DO NOT CHANGE.

UNCLASSIFIED

USSR UDC 666.117.2

PAVLUSHKIN, N. M., and ZHURAVLEV, A. K.

"Legkoplavkiye Stekla" (Low-Melting Glasses), Moscow, Izd-vo "Energiya," 1970, 144 pp

Translation of Annotation: A summary is given of the results of studies on the production of low melting glasses, methods of investigating them, and areas of their application carried out in the USSR and elsewhere. Theoretical concepts regarding the structure of low melting glass are presented and methods and results of investigations on oxide, oxygen-free, and oxychalcogenide glasses are discussed. Data on the application of low-melting glasses as sealing coatings and as solders for various electronic devices are presented.

The book is intended for scientific and engineering personnel concerned with the study and development of low-melting glasses and their applications.

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PAVLUSHKIN, N. M., and ZHURAVLEV, A. K., "Legkoplavkiye Stekla" (Low-Melting Glasses), Moscow, Izd-vo "Energiya," 1970, 144 pp

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3/3

USSR UDC: 621.396.6.049.75.002

BURSHTYN, I. B., PAVLUSHIN, Yu. A.

"A System for Automatic Inspection of Printed-Circuit Boards"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry--collection of works), vyp. 4, Moscow, 1972, pp 34-36 (from RZh--Radiotekhnika, No 8, Aug 72, Abstract No 8V329)

Translation: The paper takes up some particulars in the construction of the relay-commutation part of a system for automatic inspection of printed-circuit boards, and presents some of the basic technical characteristics of such a system. Resumé.

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 028

TITLE--FURTHER INVESTIGATION INTO RELATIONSHIPS BETWEEN DIFFUSE THALAMIC AND VISUAL SYSTEMS -U-

AUTHOR--PAVLYGINA, R.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1, PP 106-114

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRAIN, CAT, VISION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0833

STEP NO--UR/0247/70/020/001/0106/0114

NO--AP0052269

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0052269 UNCLASSIFIED PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMBINATION OF STIMULATION OF THE THALAMIC MIDLINE NUCLEI AND OF FLASHES IS ACCOMPANIED BY AN INCREASED AMPLITUDE OF SECONDARY RESPONSES OF THE EVOKED POTENTIAL TO LIGHT BOTH IN THE LATERAL GENICULATE BODY AND IN THE VISUAL CORTICAL AREA OF AN ALERT CAT. RECORDING OF SPIKE UNIT ACTIVITY REVEALED A CORRELATION BETWEEN THE PATTERNS OF SPIKE ACTIVITY AND THE PHASES OF RECRUITING RESPONSE (RR) POTENTIALS. IN RESPONSE TO THE STIMULATION OF THE MEDIAL THALAMUS, THE UNIT DISCHARGES GROUPED IN TIME AND COINCIDED BOTH WITH THE POSSITIVE AND NEGATIVE RR PHASES. DURING THE DEVELOPMENT OF THE SUBSEQUENT ADDITIONAL OSCILLATIONS, THERE WAS NO SPIKE ACTIVITY. WHEN THE STIMULATION OF THE MEDIAL THALAMUS WAS COMBINED WITH FLASHES AN INCREASE OF THE SECONDARY NEGATIVE WAVE OF RR POTENTIALS WAS ACCOMPANIED BY AN INHIBITION OF SPIKE ACTIVITY. THE SIGNIFICANCE OF THE INHIBITORY PROCESS IN FORMATION OF CONDITIONED CONNECTIONS IS DISCUSSED, SINCE THE CHANGE IN THE AMPLITUDE OF THE SECONDARY NEGATIVE WAVE IS READILY REPRODUCED IN A CONDITIONED WAY.

UNCLASSIFIED

PAVLYUCHENKO, A.

Agronomy

p/s

INCREASE IN OATS CULTIVATION URGED

JPRS 55726
17 Apr '72

/Article by Agronomists B. Parshin and A. Pavlyuchenko; Moscow, Sel'skaya Zhizn', Russian, 3 March 1972, p 2/

The directives of the 24th CPSU Congress concerning the Five-year Plan for Development of the National Economy for 1971-1975 call for further increases in the production of grain, and particularly fodder crops, which are necessary for meeting the requirements of the livestock industry for feed.

One of the important components of concentrated feed is oats, which has great significance in growing young steers and in feeding livestock. Of definite value are oat stalks, which are excellent coarse fodder. When mixed with annual leguminous crops, oats are used as hay, silage, and green fodder. Feeding oats and mixtures in their green form permits the feeding of animals with high quality succulent fodders over a long period.

Oats contain more than 13 percent protein, 4-6 percent fats, and about 40 percent starch. The fats in oats are easily assimilated. The albumin differs from that of wheat and barley in its higher content of amino acids, which are not replaceable by human and animal organisms. These acids are arginine, lysine, and tryptophan. The kernels have a great concentration of vitamins, as well as organic compounds of iron, calcium, and phosphorus. Oats are important as an industrial crop, and are extensively processed into various types of oat groats.

According to their biological peculiarities, oats belong to the moisture-loving crops. They are less resistant to drought conditions than barley or spring wheat. In the length of their vegetative period they are similar to spring

USSR

UDC 547.757'759.3:542.958.1:543.544

YUDIN, L. G., PAVLYUCHENKO, A. I., BUDYLIN, V. A., MINKIN, V. I., and KOST, A. N., Moscow State University imeni M. V. Lomonosov, and Rostov State University at Rostov-na-Donu

"Indole Chemistry. XXI. Nitration of 3-Acylindoles"

Riga, Khimiya Geterotsiklichekikh Soyedineniy, No 11, Nov 71, pp 1506-1511

Abstract: In nitration of 3-acyl- and 3-carbetoxindoles with various nitrating agents, relative prominence of hydrogen atom substitution in position 4, and replacement of the acyl radical by a nitro group in position 3, very largely depends on the immediate conditions of the experiment. Here the authors compare available experimental data with reactivity figures obtained with use of the LCAO-MO method (linear combination of atomic and molecular orbits). It is concluded that hydrogen atom substitution in the benzene ring of the models studied represents an electrolytic attack on the unprotonized molecule of the indole compound.

1/1

USSR

UDC 547.752'254.9:542.957.1

YUDIN, L. G., KOST, A. N., and PAVLYUCHENKO, A. I., Moscow State University imeni M. V. Lomonosov

"Indole Chemistry. XXVI. Mercurization of the 1-Methylindoles"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 11, Nov 71, pp 1517-1521

Abstract: Among the reactions of electrophylic substitution in indoles, mercurization has been very littel studied, owing, probably, to the infusibility and insolubility of many of the polymerization products. The authors avoided this difficulty by the use of 1-methyl-3-iodo-2-chloromercurindole, which has a definite melting point, as well as the usual properties of the arylmercurichlorides. Some physico-chemical properties, and also compositions and empirical formulas of eight mercurized indoles, and of six derivatives of mercury diindolyl, were determined. It was found that hydrogen atom of 1-methylindoles is mercury-substituted in position 3, if that position is occupied -- otherwise in position 2. The 2- and 3-chloromercurindoles are readily symmetrized, the chloromercury group being replaced with iodine and an acyl group; in the presence of a palladium salt, they will react with the esters of acrylic acid, forming the esters of indolylacrylic acid.

1/1

USSR

UDC 536.3.001.5

LEONT'YEV, A. I., RUBTSOV, N. A., PAVLYUCHENKO, A. M.

"Experimental Study of the Temperature Distribution in a Laminar Thermal Sublayer and in the Turbulent Core of a Boundary Layer in a Thermal Radiation Field"

V sb. Teplo- i massoperenos (Heat and Mass Transfer — Collection of Works), Vol. 1, Minsk, 1972, pp 355-362 (from RZh-Teploenergetika, No 7, Jul 72, Abstract No 11G155)

Translation: The effect of interaction of a gasdynamic field (both temperature and velocity) with the thermal radiation field was determined experimentally on the basis of finding in pure form the degree of deformation of the temperature field caused by this interaction. The experiments were conducted in a subsonic wind tunnel of the closed type. CO_2 was used as the absorbing gas. The measurement section consisted of a plane plate in a gas flow coming from a nozzle and forming a turbulent jet at the wall. The thermal radiation source was in the form of a SiC rod. Temperature in the boundary layer was measured with a resistance microthermometer with a tungsten gold-plated grid of diameter 20 μ. The experiments measured the velocity and temperature at

USSR

LEONT'YEV, A. I., et al, Teplo- i massoperenos, Vol. 1, Minsk, 1972, pp 355-362

the edge of the nozzle (with a Prandtl tube and a screened thermocouple), the temperature of the plate and the thermal heat source (by thermocouples and optical pyrometer), the electrical load conducted to the plates, the temperature of the insulation under the plates and in the surrounding air (to calculate thermal losses). The measurements show that the linear dependence of the dimensionless temperature on the coordinates in the laminar sublayer that was obtained in air becomes considerably nonlinear in CO_2 in the presence of the radiation field. The maximum difference in the temperature profiles in the neighborhood of the walls in the CO_2 measurements and in air was 40-80. Consequently, the additive method in calculating thermal flows by convection and radiation to the wall (from the wall) without considering the interaction of the gasdynamic field and the thermal radiation field is unsuitable. These results are supported by an analysis of an approximation model corresponding to heat transfer considering radiation in a laminar thermal sublayer. 4 ill., 5 ref. E. G. Namsarayev.

2/2

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DIFFUSION OF NEODYMIUM AND IRON IN NEODYMIUM ORTHOFERRITE -U-
AUTHOR-(04)-PAVLYUCHENKO, M.M., FILONOV, B.O., SHIMANOVICH, I.YE.,
PROKUDINA, S.A.
COUNTRY OF INFO--USSR

P

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(4), 328-31
DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PHYSICAL DIFFUSION, IRON, NEODYMIUM COMPOUND, THERMAL EFFECT,
ISOTOPE, DIFFUSION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1399 STEP NO--UR/0250/70/014/004/0328/0331

CIRC ACCESSION NO--AT0128798
UNCLASSIFIED

2/2 019
CIRC ACCESSION NO--AT0128798 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFUSION OF ND AND FE IN ND ORTHOFERRITE WAS INVESTIGATED BY USING ABSORPTION AND SECTIONING METHODS. EXPTS. WERE CARRIED OUT ON PRESSED NDFEO SUB3 SPECIMENS 10.5 MM IN DIAM. AND 3-5 MM HIGH; SUBSEQUENT MULTISTAGE SINTERING AT DIFFERENT TEMPS. WITH FINAL HOMOGENIZATION AT 1430DEGREES FOR 250 HR PRODUCED SPECIMENS WITH D. OF 6.10 G-CM PRIME3 CORRESPONDING TO 87PERCENT SPACE FILLING. DIFFUSION ANNEALING WAS CARRIED OUT IN ELEC. FURNACES AT 1240-1420DEGREES FOR 180 HR; THE TEMP. WAS REGULATED WITH AN ACCURACY OF PLUS OR MINUS 3DEGREES. DIFFUSION MOBILITY OF NDFEO SUB3 CATIONS WAS INVESTIGATED BY USING THE READIOACTIVE ISOTOPES PRIME59 FE AND PRIME147 ND. THE TEMP. DEPENDENCES OF THE DIFFUSION COEFFS. ARE GIVEN. THE DIFFUSION COEFFS. OBTAINED BY THE ABSORPTION METHOD ARE HIGHER THAN THOSE OBTAINED BY THE SECTIONING METHOD, BECAUSE THE PENETRATION OF THE RADIOACTIVE ISOTOPES FOR THE FORMER TAKES PLACE IN THE BULK AND ALONG THE GRAIN BOUNDARIES, WHILE FOR THE LATTER IT OCCURS IN THE BULK OF THE MATERIAL ONLY. COMPARISON OF THE DIFFUSION COEFFS. INDICATES THAT CATION MOBILITY OF ND IN ND FERRITE IS HIGHER THAN THAT OF THE FE CATIONS. FACILITY: BELORUSS. GOS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THERMAL DECOMPOSITION OF SILVER SULFATE DIAMMONIATE -U-

AUTHOR-(02)-TORGONSKAYA, T.I., PAVLYUCHENKO, M.M.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS, SSR, SER.-KHIM, NAVUK 1970, (1), 5-11

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, SILVER COMPOUND, SULFATE, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1813 STEP NO--UR/0419/70/000/001/0005/0011

CIRC ACCESSION NO--AP0118777

UNCLASSIFIED

2/2 019
UNCLASSIFIED
CIRC ACCESSION NO--AP0118777 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DECOMPN. OF (AG(NH SUBE)SUB2)SUB2 SO SUB4 (I) PROCEEDS ACCORDING TO THE FOLLOWING: (AG(NH SUB3)SUB2)SUB2 SO SUB4 IN EQUILIBRIUM AG SUB2 SO SUB4 PLUS 4NH SUB3. I, WHICH HAS BEEN SUBJECTED TO THERMAL TREATMENT, DECOMPS. AT A SIGNIFICANTLY HIGHER RATE THAN THE ORIGINAL PREPN. THE CHARACTER OF THE KINETIC CURVES DOES NOT DEPEND UPON THE CONDITIONS OF THE PRELIMINARY TREATMENT OF THE AMMINE. THE REACTION BEGINS WITH THE MAX. RATE, WHICH WITH TIME DECREASES TO ZERO. THE KINETICS OF THE THERMAL DECOMPN. IN A VACUUM IS SATISFACTORILY DESCRIBED BY THE EQUATION 1 MINUS (1 MINUS A)PRIME1l3 EQUALS KT AND A EQUALS 1 MINUS E PRIME NEGATIVE K SUB1 T PRIMEN WHERE N IS CONGRUENT TO 1. THE ACTIVATION ENERGY AND THE PREEXPONENTIAL FACTOR, WHICH ARE CALCD. WITH THE AID OF THE RATE CONSTS., HAVE CLOSE VALUES. FACILITY: BELORUSS, GOS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

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Acc. Nr. AP0105540

Abstracting Service:
CHEMICAL ABST.

Ref. Code
UR0419

125458y **Effect of water vapor on the dehydration of NiNa$_2$P$_3$O$_{10}$.12H$_2$O.** Pavlyuchenko, M. M.; Pysyak, Ya. S.; Zonov, Yu. G.; Prodan, E. A. (Inst. Obshch. Neorg. Khim., Minsk, USSR). *Vestsi Akad. Navuk Belarus. SSR, Ser. Khim. Navuk* 1970, (1), 29-37 (Russ). The kinetics were studied of low-temp. dehydration of NiNa$_2$P$_3$O$_{10}$.12H$_2$O in an atm. of water vapor at pressures of 2.6, 4.6, 7.4, and 13.9 mm Hg. The process is studied by means of paper chromatographic, x-ray, and ir anal. Preliminary thermogravimetric expts. show that within the limits of the pressures studied an inhibiting action of water vapor predominates. The kinetic parameter, as also in the case of dehydration in vacuum, has 2 aspects; the beginning section of relatively rapid dehydration and the final section of slow loss of wt. Increase in vapor pressure leads to a broadening of the first section at the expense of a redn. of the final section. An increase in the pressure of the water vapor in the limits studied leads to a decrease in the rate of dehydration of NiNa$_2$P$_3$O$_{10}$.12H$_2$O.

C. J. Steinberg

CB

REEL/FRAME
19880555

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ADSORPTION OF MIXTURES OF ACETONE AND CHLOROFORM VAPORS ON GRAPHITIZED CARBON BLACK -U-

AUTHOR--PAVLYUCHENKO, N.M.

P

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 271-2

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ACETONE, CHLOROFORM, ADSORPTION, CARBON BLACK/(U)FT GRAPHITIZED CARBON BLACKS -U-

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/2037 STEP NO--UR/0076/70/044/001/0271/0272

CIRC ACCESSION NO--AP0132294

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132294

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MUTURAL ADSORPTION OF ACETONE AND CHLOROFORM ON A NONPOROUS AND HOMOGENEOUS SURFACE OF FT GRAPHITIZED C BLACK HAVING A SP. SURFACE OF 12 M PRIME2-G WAS STUDIED.

FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 771.537:621.33

ZAKHARENKOV, B. F., Candidate of Sciences, PAVLYUCHUK, V. A., Candidate of Sciences, and FILIMONOV, R. P.

"Equipment for Measuring the Wiener Spectra of Photographic Noises"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 9, Sep 73, pp 62-63

Abstract: A block diagram is presented of an installation for measurement of the Wiener spectra of photographic noises. This device was constructed on the basis of articles published by the authors in Numbers 2 and 3, 1972, of the same journal. The equipment is described in detail, together with the manner of its operation. This unit is also suitable for the measurement of average regular values of the transmission factor, and for the measurement of mean-square fluctuations of values of the transmission factor of the analyzed specimens. 1 figure. 2 references.

1/1

USSR

P

UDC: 541.183

BYERINH, B. P., PAVLYUCHYENKO, N. M., SYERPINSKIY, V. V., Institute of Physical Chemistry, Moscow, Academy of Sciences USSR

"Temperatures and Entropies of Adsorption in a System of Binary Mixture of Vapors -- Non-Porous Adsorbent"

Minsk, Vestsi Akademii Navuk Belaruskay SSR, No 3, 1970, pp 5-8

Abstract: The authors present theoretical interpretation of the isobaric curves and graphs obtained by other workers experimenting with graphitized lampblack as a polymolecular adsorbent of chloroform and acetone.

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1/2 026

UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SPECTROSCOPIC PROPERTIES OF KY (MOO SUB4) SUB2 SINGLE CRYSTALS
ACTIVATED BY ND PRIME3 POSITIVE -U-

AUTHOR-(03)-KAMINSKIY, A.A., PAVLYUK, A.A., KLEVTSOV, P.V.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(2), 292-6

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SINGLE CRYSTAL, SPECTROSCOPIC ANALYSIS, LUMINESCENCE, CALCIUM
COMPOUND, TUNGSTEN COMPOUND, MOLYBDENUM COMPOUND, NEODYMIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0089 STEP NO--UR/0051/70/028/002/0292/0296

CIRC ACCESSION NO--AP0054886

UNCLASSIFIED

CIRC ACCESSION NO--AP0054886

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION AND LUMINESCENCE SPECTRA OF KY (MOO SUB4) SUB2 SINGLE CRYSTALS, CONTG. UP TO 10 AT. PERCENT ND PRIME3 POSITIVE WERE DETD. AT 300 AND 77DEGREESK; A DETAILED ANAL. OF THE SPECTRAL TERMS IS PRESENTED. ND IONS OCCUPIED Y LOCATIONS, AND ONLY 1 TYPE OF ACTIVATING CENTERS WAS OBSD. THE ENVIRONMENT OF ND PRIME3 POSITIVE IN KY (MOO SUB4) SUB2 CRYSTALS RESEMBLED THAT IN CAWO SUB4 CRYSTALS. THE LIFETIMES OF THE EXCITED STATES, DETD. AT 300 AND 77DEGREESK, DECREASED SHARPLY WHEN THE ND PRIME3 POSITIVE CONCN. WAS GREATER THAN 2.5PERCENT. A SIMILAR PATTERN WAS OBSD. FOR THE LINEWIDTHS OF THE MOST INTENSE LUMINESCENCE TRANSITIONS, PRIME4 J SUBTHREE-HALVES YIELDS PRIME4 I SUBELEVEN-HALVES, WHICH INCREASED SHARPLY WITH THE ND CONCN. ABOVE 2.5 AT. PERCENT.

USSR

UDC: 621.317.757(088.8)

PAVLYUK, A. P., MIKHAYLOV, V. A., MININ, V. A., TARASOV, N. S., DONSKOY, M. K.,

"A Device for Measuring the Bandwidth of Radio Frequency Signals"

USSR Author's Certificate No 255403, filed 4 Apr 68, published 31 Mar 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A324 P)

Translation: It is pointed out that existing devices for measuring bandwidth have a number of disadvantages: a lack of continuous visual monitoring of the spectrum of the emission being studied, inadequate precision, and poor operational efficacy. The purpose of the proposed invention is to automate measurements and improve precision. A block diagram of the device is given and its operating principle is described. E. L.

1/1

AA0046413 P UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

242493 "VOLTAGE - FREQUENCY" CONVERTER is suitable for transforming weak DC signals into frequencies as required for computer technology. Over and above the systems of frequency outlets have the advantage of being full proof, which enables these to be used for any long distance tele-control.

The suggested transforming device is static, which accounts for its advantages. The transformer operates at the entry of the generator voltage of which at that stage is "zero". The frequencies of the supporting and measuring generators are equal when stationary.

The transformer contains a supporting and measuring generators 1 and 2, a phase discriminator 3, a controlled generator 4, limiting booster 5, a frequency detector 6 and feed back 7.

5.6.67 as 116764/26-24. V.E. KOREPANOV & B.I.PAVLYUK. PHYSICO-MECHANICAL INST. ACAD. SCIENCES UKRAINIAN SSR. (5.9.69) Bul 14/25.4.69. Class $42m^3$. Int.Cl.G 06f.

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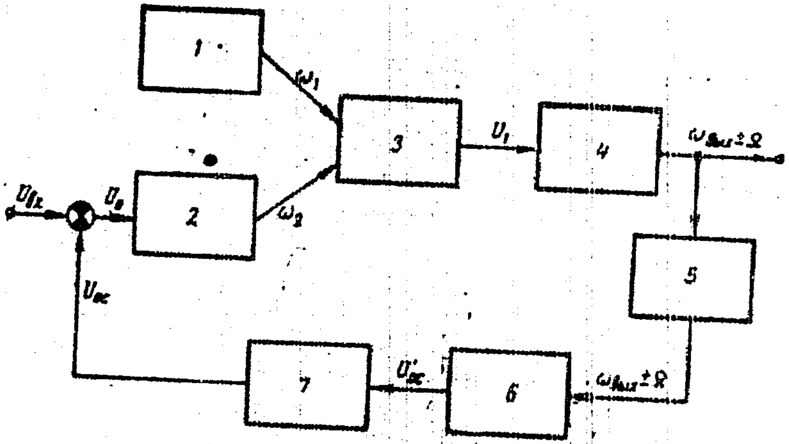
1/2

19781616

AA0046413



AUTHORS: Korepanov, V. Ye.; Pavlyuk, E. I.

Fiziko - Mekhanicheskiy Institut AN Ukrainskoy SSR

2/2

19781617

USSR

UDC: 519.2

PAVLYUK, I. A., DOVGAY, V. V.

"Asymptotic Properties of Eigenvalues of the Sturm-Liouville Problem for a Class of Equations With Random Coefficients"

Mat. fizika. Resp. mezhved. sb. (Mathematical Physics. Republic Interdepartmental Collection), 1972, vyp. 11, pp 107-112 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V119 [authors' abstract])

Translation: The paper deals with the Sturm-Liouville second order differential equation containing a random function. Estimates are found for the probability of eigenvalues falling into certain intervals, as well as asymptotic formulas for mathematical expectation and variance of eigenvalues. The method of the differential invariant is used for the study.

1/1

1/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ELECTROSTIMULATION OF THE HEART IN COMPLETE ATRIOVENTRICULAR BLOCK
-U-

AUTHOR-(02)-PAVLYUK, L.S., PAVLYUK, M.S.

COUNTRY OF INFO--USSR

P

SOURCE--VRACHEBNOYE DELO 1970, NR 3, PP 139-141

DATE PUBLISHED-------70

SUBJECT AREA--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, HEART STIMULATOR, ELECTRIC DISCHARGE,
BIOELECTRIC PHENOMENON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0670 STEP NO--UR/0475/70/000/003/0139/0141

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UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0102654
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROSTIMULATION WAS EMPLOYED IN NINE CASES: IN 5 WITH MYOCARDIAL INFARCTION, IN 3 WITH CARDIOSCLEROSIS AND 1 WITH RHEUMATISM. THE EFFECT WAS POSITIVE IN ALL INSTANCES. THE FATAL OUTCOME IN FIVE CASES WAS DUE TO CAUSES HAVING NO DIRECT RELATION TO THE ELECTROSTIMULATION USED. A SIGNIFICANT IMPROVEMENT WAS OBSERVED FOLLOWING INITIATION OF THE PACEMAKER ACTION.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ELECTROSTIMULATION OF THE HEART IN COMPLETE ATRIOVENTRICULAR BLOCK
-U-
AUTHOR-(02)-PAVLYUK, L.S., PAVLYUK, M.S.

COUNTRY OF INFO--USSR

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SOURCE--VRACHEBNOYE DELO 1970, NR 3, PP 139-141

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

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PROXY REEL/FRAME--1986/0670 STEP NO--UR/0475/70/000/003/0139/0141

CIRC ACCESSION NO--AP0102654
UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROSTIMULATION WAS EMPLOYED IN NINE CASES: IN 5 WITH MYOCARDIAL INFARCTION, IN 3 WITH CARDIOSCLEROSIS AND 1 WITH RHEUMATISM. THE EFFECT WAS POSITIVE IN ALL INSTANCES. THE FATAL OUTCOME IN FIVE CASES WAS DUE TO CAUSES HAVING NO DIRECT RELATION TO THE ELECTROSTIMULATION USED. A SIGNIFICANT IMPROVEMENT WAS OBSERVED FOLLOWING INITIATION OF THE PACEMAKER ACTION.

Corrosion

USSR

UDC 621.791.75:546.74:620.193.42

PAVLYUK, S. K., TUCHINSKIY, P. M.

"Corrosion Resistance of Welded Joints of Nickel in an Alkaline Medium"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 1972, p 76.

Abstract: Comparative corrosion tests were performed for the base metal and welded joints of NP2 nickel in an 80% aqueous solution of KOH with the addition of 7 weight parts of MnO_2 at 250°C. Study of the microstructure of specimens following testing showed no intercrystalline corrosion for any of the welding methods used (butt welding with a tungsten electrode in a mixture of argon and hydrogen with type NP2 wire, semi-automatic welding in argon with NMtsAT3-1.5-0.5 wire and automatic welding under BKN-48 ceramic flux with NP2 wire).

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USSR

UDC: 621.372.2

BUTORIN, V. M., DMITRIYEV, V. M., KRIVOSHEYEV, Ye. F., PAVLYUK, V. A., TRET'YAKOV, O. A.

"Impedance Matching Between a System of Superconducting Thin-Film Tunnel Contacts and Free Space"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72, pp 1885-1892

Abstract: The paper deals with the problem of plane electromagnetic wave excitation of a periodic system of strip lines (see figure) consisting of superconducting metal strips separated by a thin layer of a homogeneous isotropic dielectric material with thickness $2l \sim 10^{-7}$ cm. Conditions are found for matching between the impedance of this system and that of free space, and the passband and amplitude of the field within the contact at resonance are determined. The results may be treated as part of the solution of the general problem for synthesis of tunnel contacts in which the effect of weak superconductivity is observed. In reality, in the small-signal approximation the Josephson effect is described by a system of linear equations which in this instance must be solved simultaneously with the Maxwell equations and the equation for the normal and superconducting current components

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USSR

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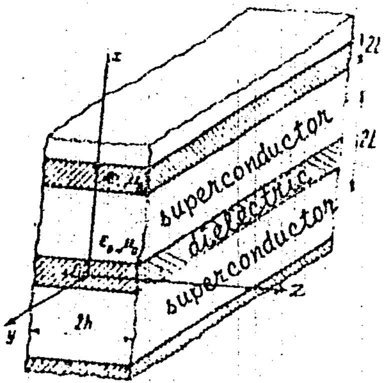
BUTORIN, V. M. et al., Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72, pp 1885-1892

as functions of the electric field intensity. The results of the work would seem to imply that the tunnel effect will introduce certain corrections into the condition found for impedance matching, but will not change it in any essential way, and that matching of a system of Josephson contacts with free space will be possible.



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Magnesium

USSR

UDC 669.295.004.2

AKIMOVA, N. A., KARVATSKAYA, R. A., USACHEVA, L. A., and PAVLYUK, YU. S.

"Desalinization of Waste Water in Titanium-Magnesium Production"

Sb. tr. Vses. n.-i. i proyektn. in-t titana (Collection of Works of the All-Union Scientific Research and Design Institute of Titanium), 1970, 8, pp 109-113 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G156)

Translation: Investigations are conducted of the desalinization of waste water from a gas purification installation in Mg production (hypochlorite pulp). A principal diagram for the neutralization and desalinization of waste water is proposed: filtration, breaking down of $Ca(OCl)_2$ in HCl filtrate, thereafter of phenol water, vacuum evaporation, evaporation in steel boats. As a result, a melted $CaCl_2$ is obtained which corresponds to GOST 450-58. 2 ill., 4 tables.

Authors' abstract

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USSR

UDC 669.295.053.24

PAVLYUK, YU. S., KARVATSKAYA, R. A., AKIMOVA, N. A., and SYCH, M. P.

"Study of the Properties of Powder of Ore-Thermal Furnaces"

Sb. tr. Vses. n.-i. i proyektn. in-t titana (Collection of Works of the All-Union Scientific Research and Design Institute of Titanium), 1970, 5, pp 105-109 (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G155)

Translation: Results are described of an investigation of the fineness and chemical composition of powder carried away from the ore-thermal furnaces of a titanium-magnesium plant. When briquettes are used in the operation of ore-thermal furnaces the powder consists of particles which are considerably finer than those obtained when a concentrate is used. The chemical analysis of the powder shows a composition analogous to that of the charge material. 3 ill., 3 tables. Authors' abstract.

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USSR

UDC 669.25:539.261

ARBUZOV, M. P., PAVLYUKOV, A. A., and OPANASENKO, O. S., Institute of Problems of Material Science, Academy of Sciences UkrSSR

"Initial Stages of Aging of Co-Al Alloys"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1105-1107

Abstract: In order to study possible changes in the structure of the Co-Al (14.6 wt.%) alloy in the earlier stages of aging, the authors studied the structure and coercive force of the alloy using thin (0.3-0.5 mm) single crystal specimens, annealed in a cooled 10% aqueous solution of NaOH. X-ray studies were performed using monochromatic NIK$_{\alpha}$ radiation. The experimental data agree well with calculated results from an earlier work. Based on the data and that of earlier works, the authors suggest the following plan for the aging process of the alloy. In the initial stages of decomposition, chaotically placed, three-dimensionally modulated complexes are formed in the supersaturated δ' solid solution. As the aging temperature increases, the size of the complexes increases, leading at 450° to formation of the α' phase, having a

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USSR

ARBUZOV, M. P., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1105-1107

hexagonal close-packed lattice. As the α' phase contacts the impoverished matrix, "monoclinic" distortions arise in the matrix as a result of elastic shift of the atomic $\{110\}$ planes in the $\langle 110 \rangle$ directions. At higher aging temperatures (700°), packing errors appear in the α'-phase crystals. After aging at 750°, the structure of the alloy consista of two phases -- β' and α. Since packing errors in the α' phase arise before appearance of the α phase in the structure of the alloy, it is possible that they act as seeds for the cubic crystals of the α phase.

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USSR

UDC 669.1:539.166

NIKOLAYEV, I. N., MAKAROV, V. A., PUZEY, I. M., and PAVLYUKOV, L. S., Moscow Engineering Physics Institute, Institute of Precision Alloys, and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Mössbauer Effect in Fe-Ni-Mn Invar Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 6, June 73, pp 1305-1307

Abstract: The Mössbauer effect was studied for nuclei of Fe^{57} in five samples $Fe_{65.5}(Ni_{1-x}Mn_x)_{34.5}$ in the interval $0.2 < x < 0.8$. After melting, the samples were annealed for five hours at 1000°C and hardened. The resulting alloys were rolled into foil and annealed again for 0.5 hours at 700°C. Geometry of transmission was used in two modes of spectra measurements: constant velocities and constant accelerations. The method of spectra interpretation was done by determining the positions of centers of gravity of all samples at temperatures above 100°K with an accuracy of ±0.006 mm/sec. A $Co^{57}(Cr)$ was used at room temperature while sample temperature was varied from 4.2 to 370°K. A diagram of the magnetic states of the alloys was produced from the temperature relationship of the Mössbauer spectra, which revealed alloys

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USSR

NIKOLAYEV, I. N., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 6, Jun 73, pp 1305-1307

$Fe_{65.5}Ni_{5.5}Mn_{29}$, $Fe_{65.5}Ni_{26}Mn_{8.5}$, and $Fe_{65.5}Ni_{28}Mn_{6.5}$. The first alloy above was antiferromagnetic and is a doublet with a relatively small average and super-thin magnetic field. An anomaly was noted in the behavior of $\mathcal{E}$ (T) which was explained by the fact that the relative shift in the spectrum is compensated by a chemical shift that decreases the total shift with reduced temperature. In this case the decrease in isomeric chemical shift signifies an increase in the density of s-electrons in Fe^{57} nuclei and that there is a change in the electron configuration of the iron atoms during the transition from the paramagnetic to the ferromagnetic state. YE. G. PONYATOVSKIY and G. T. DUBOVKA rendered assistance in this work. 2 figures, 5 bibliographic references.

USSR

UDC: 621.396.2:621.371

PAVLYUKOV, R. D.

"On Attenuation of Waves Between a Railroad Waveguide Radio Communications System and Locomotive Antennas With Regard to the Ground"

Nauch. tr. Omsk. in-t inzh. zh.-d. transp. (Scientific Works. Omsk Institute of Railway Transportation Engineers), 1970, 119, pp 94-100 (from RZh--Radiotekhnika, No 6, Jun 71, Abstract No 6A166)

Translation: The authors study conditions of transfer of energy between one of the two-conductor waveguide channels of an asymmetric multiconductor line above the actual ground, and the antenna of a locomotive. Account is taken of not only the horizontal, but also the vertical sections of the antenna, with the result that the transfer attenuation is never equal to infinity. Formulas are derived and the given transfer attenuations are found with regard to the actual properties of the soil for railroad waveguide radio communications systems located on the supports of a contact network. The use of these systems on sections with high-speed traffic gives a reliable channel for radio communications with a train. Resumé.

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Miscellaneous

USSR UDC (083.74) 669.14

VINOGRAD, M. I., KISELEVA, S. A., PAVPEROVA, I. A., APOLOVNIKOVA, L. G., KOLYASNIKOVA, R. I. and BUSHINA, E. G.

"New Standard for Metallographic Determination of Nonmetallic Inclusions in Steel"

Moscow, Standarty i kachestvo, No 2, Feb 72, pp 28-30

Abstract: Described is the newly announced GOST 1778-70 for the metallographic determination of impurities in metals replacing GOST 1778-62, which, in addition to other drawbacks, was inadequate to determine reliably the difference in the degree of contamination between individual heats. The need for the new standard has also been prompted by new steelmaking methods and high-purity requirements on top-grade metals. Compared to similar foreign standards, the new GOST 1778-70 features the following advantages: a scale providing strict classification of inclusions by composition and covering a wider variety, including nitrides; a x200 magnification permitting more accurate rating of impurities in pure metal than the "IK" scale in the American ASTM E-45-63; an examination area of sections for the "Sh" method adopted as 400 ± 50 mm^2 (the same area in ASTM E-45-63 is only 200 mm^2; the standard includes measuring and calculation systems (not available on foreign standards) some of which are suitable for determining impurities in both formed and cast metals;

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USSR

VINOGRAD, M. I., et al, Standarty i kachestvo, No 2, Feb 72, pp 28-30

detailed patterns for cutting test pieces for the greatest majority of metallurgical items (only a few are available on foreign standards). 2 tables, 6 bibliographic references)

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USSR UDC 669.14.018.29:669.187

VINOGRAD, M. I., KISELEVA, S. A., FILIPPYCHEVA, M. M., and PAVPEROVA, I. A., TsNIICHM, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Non-Metallic Inclusions in ShKh15 Steel Remelted by Different Methods"

Moscow, Stal', No 10, Oct 70, pp 935-938

Translation: A comparative investigation was made of impurities in open electric melted ShKh15 steel and in three refining remelts: electric slag remelt (mass production, most advanced process, data from 1962 and later), vacuum arc remelt, and electron-arc remelt (experimental melting). Non-metallic inclusions of various types were used. The inclusions were estimated according to four methods: the GOST 801-60 scale, the ChMTU/TsNIIChM 235-60 scale, calculation of the dirty fields of vision (volumetric content, TsNIIChM method), and using a quantitative television microscope with a magnification of 1273. The first two methods of estimating the remelted metal, which possesses only insignificant quantities of small inclusions, are not demonstrative. Considerable improvement in the quality of metal was noted in all types of remelting and no remelting method was demonstrably better than the other. Double remelting (electric slag and vacuum arc remelting, electric slag and electron-arc remelting) resulted in the highest purity.

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USSR

UDC:669.187.6

VOLKOV, S. Ye., RAVPEROVA, L. A., KLYUYEV, M. M., PUPYNINA, S. M., and FRENKEL, YA. A.

"Improvement of the Quality of Type Kh25N16G7AR (EI835) Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 169-177

Translation: The possibility is studied of improving the quality of type EI835 steel by double electric slag remelting. The repeated electric slag remelting allows a significant reduction in the contamination of the metal with nonmetallic inclusions. However, in order to produce metal of the highest quality, it is necessary to consider the temperature mode of the process and the composition of the flux.

The influence of the composition of the working flux on the nature of nonmetallic inclusions following electric slag remelting has been established. For example, after remelting under a flux with increased content of basic oxides, the inclusions contain calcium oxide and magnesium oxide. Remelting beneath a flux, the composition of which included aluminum oxide, led to an increase in the content of alumina in the inclusions. Based on these facts, an assumption is made concerning the mechanism of interaction of slag and metal during the process of electric slag remelting. 4 figures; 3 tables; 3 biblio. refs.

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USSR

PAVSKIY, V. A.

"The Possibility of Performance of a Stream of Simple Jobs in Homogeneous Computer Systems"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk, 1972, pp 48-58 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V596, by the author).

Translation: The indicators of possibility, characterizing the process of performance of a flow of jobs by a less than absolutely reliable homogeneous computer system (HCS) are introduced and calculated. A definition of pk possibility is given. Numerical results and examples are presented, graphs are constructed and an ALGOL program is described.

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USSR

UDC: 621.317.743

PAYANSKIY, Yu. M., ABRAMSON, Yu. M., SENCHILO, A. Ya.

"Measurements of Radio Interference When Selecting Sites for Locating Ground-Based Stations"

Tr. NII radio (Works of the Scientific Research Institute of Radio), 1972, No 1, pp 49-54 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8A346)

Translation: A radio interference measurement procedure is described and ways to improve the procedure are pointed out. The characteristics of the measurement equipment are given, and the suitability of the equipment for measuring interference in ground-based stations is estimated. Factors which influence the duration of measurements are enumerated, and it is shown how the measurement time can be shortened. Resumé.

Acc. Nr.: AP0040413 Ref. Code: UR0108

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JPRS 50248

USSR UDC 629.195.2:621.39

TALYZIN, N. V., KANTOR, L. YA. and PAYANSKIY, YU. M.

"Economic Aspects of Increasing the Capacity of a Satellite Communication System"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 3-8

Abstract: The article deals with the economic factors of the satellite communication system and their relation to system capacity. Its purpose is to determine the dependence of the system optimal parameters and efficiency on system capacity. Various ways for increasing the system capacity are considered and their efficiency and performance are analyzed. The way of increasing the system capacity by increasing the number of high-frequency "cores" is retained for the analysis. The optimum number of "cores" is determined by the frequency deviation on the channel from an equation. At a given repeater and HF core capacity this equation makes it

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possible to establish the necessary frequency deviation and to determine the outlay for a satellite communication system, as a function of the onboard transmitter power and system capacity. Calculations of the optimal system parameters at variable system capacity was carried out, according to the algorithm presented previously by the authors, under the assumption, that every ground station is provided with one full-turn antenna and that the redistribution of channels between the ground stations is neglected. An analysis of the results shows that: 1. Outlays for one telephone channel decreases with increasing system capacity. 2. The system capacity increase leads to the reduction of optimal power of the onboard transmitter, and to an increase in the optimal antenna diameter at ground station. 3. The increase in system capacity has a small effect on its relative efficiency i.e. the average distance between the stations of an equivalent (with respect to outlays and capacity) ground station. This distance depends on the number of ground stations.

1974[illegible]577

USSR

UDC 629.195.2:621.39

TALYZIN, N. V., KANTOR, L. YA. and PAYANSKIY, YU. M.

"Economic Aspects of Increasing the Capacity of a Satellite Communication System"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 3-8

Abstract: The article deals with the economic factors of the satellite communication system and their relation to system capacity. Its purpose is to determine the dependence of the system optimal parameters and efficiency on system capacity. Various ways for increasing the system capacity are considered and their efficiency and performance are analyzed. The way of increasing the system capacity by increasing the number of high-frequency "cores" is retained for the analysis. The optimum number of "cores" is determined by the frequency deviation on the channel from an equation. At a given repeater and HF core capacity this equation makes it possible to establish the necessary frequency deviation and to determine the outlay for a satellite communication system, as a function of the onboard transmitter power and system capacity. Calculations of the optimal system parameters at variable system capacity was carried out, according to the algorithm presented previously by

USSR

TALYZIN, N. V., et al., Radiotekhnika, Vol 25, No 1, Jan 70, pp 3-8

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Plant Pathology

USSR

UDC 632.4:633.11:582.285.2(47+47)

LESOVOY, M. P., FEDOROVA, V. A., SHKODENKO, V. I. TERESHCHENKO, B. A., SHOPINA, V, V., IBRAGIMOV, G. R., AKHMEDOV, S. A., YEROSHOVA, N. L., MAMONTOVA, A. N., PERESYPKIN, V. F., BOYKO, Yu. I., SHAVARINA, Z. A., CHUMAKOV, A. Ye., YAREMENKO, Z. I., PAYCHADZE, L. V., and EL'CHIRAYEV, A. A., All-Union Institute of Plant Protection, Ukrainian Institute of Plant Protection, Ukrainian Agricultural Academy, Azerbaydzhan Institute of Agriculture, Central Asian Institute of Plant Pathology, and Kazan' Institute of Plant Protection, Georgian Institute of Plant Pathology

"Race Formation in Puccinia triticina Eriks. and P. striiformis West. in the USSR"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

Abstract: Study of the causative agents of orange leaf and stripe rusts of wheat in different parts of the Soviet Union and some other European countries showed that, despite the great variety of races, only a few are responsible for epiphytotics. The main races are fairly constant from year to year. This stabilization is due to the fact that that more then 90% of all the regionalized wheat varieties in the USSR are susceptible to all races of the pathogens. The racial composition of the pathogens in the USSR is similar to that occurring elsewhere in Europe because of the exchange of original forms and use of the

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USSR

(12)

LESOVOY, M. P., et al., Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

same components in breeding wheat varieties. The appearance of new races and biotypes and changes in their virulence are the result of mutation, heterokaryosis, resistant varieties, and sexual hybridization.

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USSR

POTAPOV, R. L., (Editor)

Ekologicheskiye i Fiziologicheskiye Aspekty Pereletov Ptits (Ecological and Physiological Aspects of Bird Migrations), Leningrad, "Nauka," 1971, 244 pp

Translation: Table of Contents:

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1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ANOMALOUS CHANGE IN THE STRENGTH OF RUBBERS DURING THEIR INTERACTION WITH WATER -U-

AUTHOR-(02)-PAYEVSKIY, V.G., ZHIVOVA, E.A.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 136-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NATURAL RUBBER, BUTYL RUBBER, WATER, MECHANICAL STRENGTH, RUPTURE STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0814 STEP NO--UR/0374/70/006/001/0136/0138

CIRC ACCESSION NO--AA0107356

UNCLASSIFIED

CIRC ACCESSION NO--AA0107356

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEAR RESISTANCE (SIGMA) OF NATURAL RUBBER BUTYL RUBBER MIXT. (I) DOES NOT CHANGE WHEN SMALLER THAN OR EQUAL TO 21PERCENT WATER IS ABSORBED. HOWEVER, AFTER DRYING I, WHICH ABSORBED 12.9PERCENT WATER, SIGMA INCREASED FROM SIMILAR TO 7.5 TO SIMILAR TO 9.4 KG-CM. THIS CAN BE EXPLAINED BY THE IDEA THAT THE WATER IS TAKEN UP BY I ONLY THROUGH THE CAPILLARY MICROFISSURES WHICH EXPAND. THE EXPANSION CAUSES THE ORDERING OF I STRUCTURE WHICH PERSISTS AFTER DRYING AND STRENGTHENS THE RUBBER. ALTERNATIVELY (OR CONCURRENTLY) WATER REMOVES FROM THE INSIDE CAPILLARY WALLS A FILM OF O CONTG. IMPURITIES. THIS INCREASES THE TACKINESS OF THE WALLS WHICH THEREFORE STICK TOGETHER AFTER DRYING, SEALING THE MICROFISSURES WHICH ARE PRINCIPALLY RESPONSIBLE FOR THE MECH. FAILURE OF I. FACILITY: GOS. NAUCH-ISSLED, PROEKT. INST. POLIM. KLEEV IM, TER-GAZARYANA, KIROVAKAN, USSR.

USSR

UDC 612.82-089:615.837.3

TYURIN, S. I., BRAZOVSKAYA, F. A., ININ, Yu. S., PAYKIN, D. I., SIROTYUK, M. G., and GAVRILOV, L. R., Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences USSR, Central Design Bureau, Academy of Medical Sciences USSR, and Acoustic Institute, Academy of Sciences USSR

"Use of Focused Ultrasound for Local Destruction of Brain Structures Through Intact Skull"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 5, 1973, pp 120-121

Abstract: Using a focusing emitter to create an ultrasonic field, the authors irradiated portions of rabbit brains 16 to 20 mm from the surface in the region of the hypothalamus and mesencephalon without preliminary trephination. A single sonication produced a lesion 0.2 to 1 mm in diameter and 1 to 3 mm in length. No pathological changes were noted on the way to the target area in which histological examination of frontal sections revealed a focus of coagulation necrosis.

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USSR

UDC 621.315.592(088.8)

VERZIN, I. I., PAYKIN, I. M., POPOV, N. R., SUYETIN, O. N., FURMAN, B. A.

"Device for Compensation of Axial Play of the Priming Rod of Furnaces for Growing Single Crystals"

USSR Author's Certificate No 275412, Filed 1 Dec 67, Published 14 Oct 70 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G479P)

Translation: A device for compensation for axial play of the priming rod of furnaces for growing single crystals contains a system for regulating the speed of the drive which displaces the priming rod. To decrease the axial play in the translational motion of the priming rod occurring during its rotation, an inductive displacement transducer is introduced, the moving part of which is rigidly connected to the priming rod. The stationary part is connected to the carriage on which the inoculation rod is mounted, and the output of which is connected to the input of the speed regulator of the drive for displacing the priming rod.

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USSR

UDC 531.717.2.087.92:62-531.6.088.6

LUTOVINOV, B. V., PAYKIN, I. M., POPOV, N. R.

"Compensation for Axial Beating of Bearings with Rolling Friction"

Vestn. Khar'kov. Politekhn. In-ta [Herald of Khar'kov Polytechnical Institute], 1972, No 66, pp 31-34, (Translated from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 7, 1972, Abstract No 7.32.164, from the Resume).

Translation: A device for compensation of axial beating of a bearing with rolling friction with reciprocating and rotary motion of the shaft is studied. Compensation is achieved by introducing a signal from an axial shaft bearing sensor as a correcting component to the regulation of drive speed of the reciprocating motion. The device developed, in combination with design changes of the bearing unit, allows axial beating to be compensated with an accuracy of at least 0.2 μ which, in turn, allows the accuracy of maintenance of the rate of motion to be increased. 2 Figures; 2 Biblio. Refs.

1/1

USSR

UDC 612.821.6+612.825+612.826+612.822.3

PAYKOVA, L. N., Department of Normal Physiology, Khar'kov Medical Institute

"Bioelectrical and Vegetative Components in 'Negative Emotional Type' Conditioned Reflexes"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 23, No 3, May/Jun 73, pp 517-522

Abstract: Experiments were conducted with rabbits to study conditioned reflex mechanisms in the development of negative emotional states induced by electrical stimulation. Electrodes were implanted in the center and base of the nucleus amygdalae, the dorsal and ventral hippocampus, and the lateral nucleus of the septum. A conditioned defensive reflex was developed in response to a 400 c/s tone; simultaneously, direct electrical stimulation of the nucleus amygdalae was used as unconditioned reinforcement. EEG responses (distinct bioelectrical shifts) to the conditioned stimulus were registered in the limbic structures of the brain. Both EEG and behavioral changes were accompanied by increased heart and, especially, respiration rates. It was concluded that it may be possible to develop stable conditioned emotional states by using direct electrical stimulation of the basal nucleus amygdalae as unconditioned reinforcement.

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1/2 037

UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--KINETICS AND MECHANISM OF THE OXIDATION OF DIETHYLANILINE BY PERIODATE -U-

AUTHOR-(03)-PAYLOVA, V.K., SAYCHENKO, YA.S., YATSIMIRSKIY, K.B.

COUNTRY OF INFO--USSR

P

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 658-63

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL KINETICS, CHEMICAL REACTION MECHANISM, OXIDATION, ANILINE, IONIC BONDING, PHOTOEFFECT, QUINONE, IMINE, ACTIVATION ENERGY, IODATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0716 STEP NO--UR/0076/70/044/003/0658/0663

CIRC ACCESSION NO--AP0119623

UNCLASSIFIED

2/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119623

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF AN INTERMEDIATE COMPLEX OF IO SUB4 PRIME NEGATIVE AND PHNET SUB2 IS SHOWN BY THE RELATIONSHIP BETWEEN THE OXIDN. RATE AND IO SUB4 PRIME NEGATIVE AND PHNET SUB2 CONCN. (NONLINEAR AND LINEAR, RESP.). MAX. OXIDN. RATE IS OBSD. OVER PH 6.3-7.2; THE RATE DECREASES WITH INCREASING IONIC STRENGTH. THE OXIDN. IS REPRESENTED BY: SHOWN ON MICROFICHE. THE VALUE OF ACTIVATION ENERGY EQUAL TO 19.2 KCAL-MOLE CONFIRMS THE PARTICIPATION OF FREE RADICALS IN THE REACTION. FAICLITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

UNCLASSIFIED

USSR

VAKHITOV, M. B. and PAYMUSHIN, V. N.

UDC 539.3

"On the Calculation of Sandwich Plates with a Light Filler"

Kazan', Tr. Kazan. aviats. in-ta (Transactions of the Kazan' Aviation Institute), Vyp 145, 1972, pp 3-13 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V244 by F. A. Kogan)

Translation: Rectangular isotropic sandwich plates of symmetrical structure with membranous outer layers and a light, noncompressible filler are considered in a linear formulation. The total bending was in the form of a sum of two components, including bending w_{iz} and shear w_{cdv}. It is assumed that upon deformation of the plate due to the shear the tangential displacements of the mean surfaces of the bearing layers equal zero. Under these conditions a system of two equilibrium equations for the sandwich plates was obtained, which is divided into two independent equations for the case of transverse bending. It is shown that the equations obtained are only another form of the Reissner equations (see Reissner, E., J. Aeronaut. Sci., Vol 15, No 7, 1948, pp 435-440; Vol 17, No 2, 1950, p 125). Several variants of the boundary conditions are formulated. On the basis of the equations obtained the stability of plates with a cylindrical form of stability loss is considered for three variants of the boundary conditions.

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USSR

PAYULAYUSKAS, V. I.

"Unevenness of Smoothing"

Lit. mat. Sb. [Lithuanian Mathematics Collection], Vol 11, No 4, 1971, pp 861-866, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V17 by the author).

Translation: The following theorem is proven: Let F(x) be a limited, non-diminishing function, G(x) be a function of limited variation, $F(-\infty) = G(-\infty)$, $F(+\infty) = G(+\infty)$. Let H(x) be a distribution function with density H(x). Then for all x and $\alpha > 0$, such that

$$a_h(x, \alpha) = 2\int_0^\alpha h(x-y)\,dy - 1 > 0,$$

the inequality

$$\sup|F(x) - G(x)| \leqslant \frac{1}{a_h(x, \alpha)} \times \\ \times \left\{\sup_x |[(F-G)*H](x)| + \sup_u \int_0^\alpha |G(y+u) - \\ - G(u)|\, h(x-y)\,dy\right\}. \qquad (1)$$

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USSR

PAYULAYUSKAS, V. I., Lit. mat. Sb., Vol 11, No 4, 1971, pp 861-866.

obtains. It is proven in three results that (1) encompasses and refines all known inequalities of this type, both in the method of characteristics functions (Saesseen inequalities and their clarifications from the works of V. M. Zolotarev and V. V. Petrov) and in the method of compositions (lemma of G. Bergstrom).

USSR

UDC 512.25/26+519.3.330.115

PAZAMANTIR, E. I.

"Methods of Solution of Block Programming Problems"

Metody Upr. Bol'shimi Sistemami. T. 2 [Methods of Control of Large Systems, Vol. 2 -- Collection of Works], Irkutsk, 1970, pp 241-251 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V549).

Translation: A review, discussion and comparison of various approaches to the problem.

1/1

USSR

UDC 512.25/.26+519.3:330.115

SALIKHOV, Z. M., PAYZIYEV, E., BURKOV, V. N., KANTSEL'SON, M. B.

"Combined Algorithm for Solution of the Transport Problem"

Vopr. Kibernet. i Vychisl. Mat. [Problems of Cybernetics and Computer Mathematics -- Collection of Works], No 40, Tashkent, 1970, pp 23-29, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V507).

NO ABSTRACT.

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1/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SIMPLE MODEL OF HIGH ENERGY WIDE ANGLE PROTONDEUTERON SCATTERING
-U-

AUTHOR--PAZDZERSKIY, V.A.

COUNTRY OF INFO--USSR

P

SOURCE--IZV. AKAD. NAUK UZB. SSR. SER. FIZ.-MAT. NAUK 1970, 14(2), 85-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MODEL, HIGH ENERGY INTERACTION, PROTON SCATTERING, DEUTERON SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0572 STEP NO--UR/0166/70/014/002/0085/0086

CIRC ACCESSION NO--AP0137657

UNCLASSIFIED

2/2 015

CIRC ACCESSION NO--AP0137657 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHARACTERISTIC PECULIARITY OF THE P,D SCATTERING AT LARGE ANGLES AT ENERGIES GREATER THAN 1 GEV, THE EXISTENCE OF THE WIDE PEAK IN THE BACKWARD SCATTERING, IS DISCUSSED. THE 2NS POSSIBLE MECHANISM OF THE EXPLANATION OF THIS PEAK, THE DOUBLE HIGH ENERGETIC FORWARD SCATTERING AND THE REPLACEMENT OF P IN D, IS GIVEN. THE METHOD OF THE CALCN. IS PRESENTED AND THE RESULTS ARE COMPARED WITH THE VALUES OF OTHER AUTHORS. FACILITY: TASHKENT. GOSUNIV. IM. LENINA, TASHKENT, USSR.

UNCLASSIFIED

1/2 040 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--COPOLYMERIZATION OF BUTYL METHACRYLATE WITH 5,ALKYL,1,3,DIALLYL ISOCYANURATES -U-

AUTHOR-(04)-CHOVNIK, L.I., KHOMENKOVA, K.K., PAZENKO, Z.N., KORNEV, K.A.

P

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. UKR. 1970, (1) 9-10

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COPOLYMERIZATION, ACRYLATE, HEAT RESISTANCE, TENSILE STRENGTH, ELONGATION, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1509 STEP NO--UR/0436/70/000/001/0009/0010

CIRC ACCESSION NO--AP0112503

UNCLASSIFIED

2/2 040

UNCLASSIFIED

CIRC ACCESSION NO--AP0112503 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COPOLYMN. OF H SUB2 C:CMECO SUB2 BU (I) WITH 5,ALKYL,1,3,DIALLYL ISOCYANURATES (II) (U.S.S.R. 165,460) GAVE HEAT RESISTANT COPOLYMERS. THE BEST I-II RATIO WAS 95:5. THE BULK COPOLYMN. WITH 0.3PERCENT BZ SUB2 O SUB2 AT 60-85DEGREES GAVE COPOLYMERS WITH THE FOLLOWING PROPERTIES (ALKYL, PERCENT WT. LOSS AT 210DEGREES IN 150 MIN, TENSILE STRENGTH AT BREAK IN KG-MM PRIME2, PERCENT ELONGATION AT BREAK GIVEN): ME, 2.11, 0.300, 455; ET, 3.29, 0.658, 362.5; BU, 3.35, -; -; AMYL, 3.41, 0.4005, 4416.5; OCTYL, 5.73, 0.5280, 448; BROMOETHYL, 2.73, 0.6501, 198. THE EXPTL. VALUES FOR POLY(BU METHCRYLATE) WERE 55.97, 0.4897, AND 510 (IN THE ABOVE ORDER).

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--OBSERVATION OF THE SUPPRESSION OF THE INELASTIC CHANNEL OF A NUCLEAR REACTION DURING RESONANCE NUCLEAR SCATTERING OF GAMMA RAYS IN A

AUTHOR-(04)-VOYTOVETSKIY, V.K., KORSUNSKIY, I.L., NOVIKOV, A.I., PAZHIN, YU.F.

P

COUNTRY OF INFO--USSR

SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 970, 11(3), 149-53

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SINGLE CRYSTAL PROPERTY, GAMMA IRRADIATION, GAMMA SCATTERING, TIN ISOTOPE, RESONANCE SCATTERING, PARTICLE ABSORPTION, INELASTIC SCATTERING, RADIATION DETECTOR, COLLIMATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0241 STEP NO--UR/0386/70/011/003/0149/0153

CIRC ACCESSION NO--AP0105317

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105317

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE INTENSITY OF REFLECTION ON THE RELATIVE VELOCITY OF GAMMA RAYS IN THE SOURCE, AND IN A PERFECT SINGLE CRYSTAL, 420 MU THICK CONTG. 88PERCENT PRIME119 SN WAS STUDIED AT 90DEGREESK IN AN ASSEMBLY, WHICH DIFFERED FROM THAT DESCRIBED PREVIOUSLY (VOITOVETSKII, ET AL., 1965) BY THE REPLACEMENT OF THE CRYSTAL MONOCHROMATOR BY A SLOT COLLIMATOR. IN THE SPECTRUM REGION WHE R RESONANCE SCATTERING MAGNITUDE OF F R OVER N IS LARGER THAN E SCATTERING, F. SUBE, WHEN INDEPENDENT ABSORPTION ON SEP. NUCLEI IS AT A MAX., AND WAVES FORM PRIMARILY BY NUCLEI C TERING, ABSORPTION IS WEAK. THIS WAS ASCRIBED TO SUPPRESSION OF INELASTIC CHANNELS. IN THE REGION WHERE MAGNITUDE OF F R OVER N IS SMALLER THAN F SUBE, WAVE FIELDS ARE FORMED PRIMARILY BY F SUBE.

UNCLASSIFIED

USSR

P

UDC 537.311:546.3-19'87'289'23

PAZIN, A. V., and BORISOVA, Z. U.

"Electrical Conductivity of Glasses in the System Bismuth-Germanium-Selenium"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 6, Jun 70, pp 1215-1218

Abstract: The region in which glass formation takes place in the system Bi-Se-Ge was determined in earlier work by the authors (Vest. LGU, 22, 140, 1969). The electrical conductivity and activation energy of conduction of vitreous alloys in this region were determined in work reported in this instance. Depending on the composition of the alloys, the conductivity varied in the minus lg σ_{20° = 13.6 - minus lg σ_{20° = 16.5 range, while the corresponding changes in the activation energy of conduction were in the 1.91-2.45 ev range. Increases in the vitreous alloys of the content of Bi between 2.5 and 10 at. % and changes in the content of Ge had practically no effect on either the conductivity or the activation energy of conduction. Increases of the content of Sb in vitreous Sb-Se-Ge alloys with a Ge content of 15-30 at. % also did not affect either the conductivity or activation energy of conduction. This indicated that structural units with the composition $SbSe_{1.5}$ and $BiSe_{1.5}$ did not form in these alloys, but formation of units containing all three alloy components took place. Vitreous Sb-Se-Ge alloys with a Ge content < 15% behaved differently in this respect; with an increasing content of Sb in them, a regular increase in conductivity and a decrease in the activation energy of conduction were observed.

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--OBSERVATION OF THE SUPPRESSION OF THE INEALASTIC CHANNEL OF A NUCLEAR REACTION IN RESONANT NUCLEAR SCATTERING OF GAMMA RAYS IN A

AUTHOR-(04)-VOITOVETSKIY, V.K., KORSUNSKIY, I.L., NOVIKOV, A.I., PAZHIN, YU.F.

P

COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, NO. 3, P. 149-53 (FEB. 1970)

DATE PUBLISHED-----FEB70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--NUCLEAR RESONANCE, NUCLEAR REACTION, NUCLEAR SCATTERING, GAMMA RAY, SINGLE CRYSTAL, TIN ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1788 STEP NO--US/0000/70/011/003/0149/0153

CIRC ACCESSION NO--AP0133693

UNCLASSIFIED

2/2 022 UNCLASSIFIED
CIRC ACCESSION NO--AP0133693 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO OBSERVE THE EFFECT OF THE NUCLEAR REACTION CHANNEL SUPPRESSION FOR THE CASE WHEN NUCLEAR RESONANT SCATTERING IS DECISIVE, ALSO TO INVESTIGATE ALL THE POSSIBLE MECHANISMS OF WAVE FIELD FORMATION LEADING TO THE SUPPRESION OF THE INELASTIC CHANNELS IN THE CRYSTAL, THE AUTHORS HAVE PERFORMED AN EXPERIMENT WITH A PERFECT TIN SINGLE CRYSTAL CONTAINING 88PERCENT SN PRIME119 (MAGNITUDE OF F SUBNUC PRIMER GREATER THAN F SUBE IN A CRYSTAL WITH THIS SN PRIME119 CONTENT).

UNCLASSIFIED

USSR

UDC: 621.372.855(088.8)

LISAGOV, O. I., PAZIN, L. Z.

"An Absorbing Waveguide Load"

USSR Author's Certificate No 264493, filed 8 May 68, published 16 Jun 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B247 P)

Translation: The proposed waveguide load consists of a section of waveguide inside which are two absorbers which are located on opposite walls and displaced relative to one another. To simplify matching, a releasing device is located between the absorbers which contains a wedge, an insert with a groove for the wedge, and a threaded hole with a screw which threads into the insert and rests on the face of the wedge. One illustration. Resumé.

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USSR

PAZMAN, ANDREJ

"Sequential Designs for Estimating s out of k Parameters"

Acta Metronom., 1972, Vol 8, No 4, 11 pp (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V160)

Translation: A sequential (iterational) method is suggested for calculation of optimal plans in the case of estimation of only a certain s useful parameters of a total number of k parameters ($1 \leq s \leq k$). An expression is produced allowing the points to be calculated which must be added to the inital plan. It is proven that, using the suggested sequential procedure, the generalized dispersion corresponding to the s useful parameters converges to the value of the generalized dispersion produced from the optimal plan.

Author's view

1/1

USSR

UDC: 51

PAZOYSKIY, Yu. O.

"The Problem of Assignments With a Special Matrix of Costs"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Railway Transportation Engineers), 1971, vyp. 385, pp 77-87 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V529)

Translation: The paper deals with the problem of assignments with a matrix of special structure: the matrix contains a "boundary" (broken line) with ones standing to the left and below, and zeros standing to the right and above.

1/1

USSR

PAZYUK, K. T. UDC: 8.74

"On the Problem of Forming a Procedure for Making Complicated Decisions in Choosing the Study Area for Scientific Research"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1973, vyp. 158, pp 38-44 (from RZh-Kibernetika, No 5, May 73, abstract No 5V791)

Translation: The author considers the problem of evaluating objects (alternatives, subject areas, etc.) when there are several quality criteria. A variant is proposed for synthesizing aggregated estimates, and a model of the overall estimating function is defined. Complex decision making is treated as a problem of sequential optimization with presentation of intermediate results to the person making the decision (a man-machine procedure).

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USSR

UDC 577.4

PAZYUK, K. T.

"Simulation of the Economic Phenomena of the Process of Decision-Making in Large Systems within the Framework of Game Theory"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972, vyp. 107, pp 91-93 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V468)

No abstract

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STUDY OF AGEING PROCESSES IN STEEL OF THE TRANSITIONAL CLASS WITH VARIOUS CARBON CONTENTS -U-

AUTHOR--PAZYURICH, S.F.

P

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29,(2), 340-348

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM NICKEL STEEL, CHEMICAL COMPOSITION, MECHANICAL PROPERTY, CARBON STEEL, MARTENSITIC STEEL, METAL AGING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0202 STEP NO--UR/0126/70/029/002/0340/0348

CIRC ACCESSION NO--AP0129458

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0129458

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL LAWS GOVERNING THE PROGRESS OF AGEING IN HIGH STRENGTH, CORROSION RESISTANT CR-NI STEELS OF THE TRANSITIONAL CLASS WITH VARIOUS C CONTENTS (0.002-0.11PERCENT) WERE STUDIED AND INTERPRETED IN TERMS OF THE EXPERIMENTALLY OBSERVED CHANGES IN PHYSICAL AND MECHANICAL PROPERTIES ARISING AS A RESULT OF AGEING. IN SAMPLES WITH THE LOWEST C CONTENT THE CORROSION LOSSES REACHED A MAX. AT SIMILAR TO 425DEGREESC; THIS WAS ATTRIBUTED TO THE LAMINATION OF THE MARTENSITE AND THE FORMATION OF TWO B.C.C. PHASES WITH DIFFERENT CR CONTENTS.

UNCLASSIFIED

USSR

UDC 669.71.018.29.621.785.362

BOCHVAR, O. S., KUNYAVSKAYA, T. M., KIRPA, I. G., PCHELIN, A. T., EKHINA, Ye. V.

"Influence of the Initial Macrostructure of the Ingot on the Nature of Softening During Annealing of Sheets of Technical Aluminum"

Metalloved. Splavov Legkikh Met. [Metal Science of Light Metal Alloys -- Collection of Works], Moscow, Nauka Press, 1970, p.11-15. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I662 by the authors).

Translation: The influence of the type of initial macrostructure of an ingot, macrograin size,and relationship of Fe and Si impurities on the mechanical properties and structure of cold-rolled Al sheets after annealing is studied. The hereditary influence of the type of casting structure of the ingot on the microstructure of annealed sheets is demonstrated, as well as the influence of grain size of the macrostructure of initial ingots on the displacement of the temperature of the beginning of intensive softening. 2 figs; 1 table.

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USSR

UDC 669.716:621.785.3

BOCHVAR, O. S., KUNYAVSKAYA, T. M., KIRPA, I. G., PCHELIN, A. T., and EKHINA, Ye. V.

"The Effect of the Initial Macrostructure of the Ingot on the Weakening Character In Annealing Sheets of Industrial Aluminum"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 11-15, resume

Translation: Effects of the type of macrostructure of the initial ingot, the size of the macrograin, and also the relation of iron and silicon admixtures after annealing on the mechanical properties and structure of cold-rolled aluminum sheets after annealing are discussed. The hereditary effect of the type of cast structure of the ingot on the microstructure of annealed sheets is demonstrated, as is the effect of macrostructure grain sizes of initial ingots on the shift in temperature of the beginning of intensive weakening. Two figures, one table.

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USSR

UDC 621.791.856:669.15-194

CHEKATILO, I. V., MARTYN, V. M., ARTAMONOV, V. L., Institute of Electric Welding imeni Ye. O. Paton, YERMILOV, YU. F., MASKIMOV, V. T., and PCHELIN, YU. I., Biysk "Elektropech'" Plant

"Welding of Heat Resistant Kh25N20S2, Kh23N18, and Kh25N13 Steels in Protective Gases"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 70, pp 50-53

Abstract: An investigation was conducted at the Institute of Electric Welding imeni Ye. O. Paton for the purpose of developing a technology for the gas-arch welding of Kh25N20S2 steel and its combinations with Kh23N18 and Kh23N13 steels in argon, CO_2, and technical nitrogen containing 3-5%O_2. The use of EP532 austenitic boride wire 1.2 and 2 mm in diameter containing 0.45-0.75 B and 2,5-3.0% Si made it possible to obtain welds without cracks. Welding techniques in different gases are described. Tables are presented which show the chemical contents of steels and wire and the transient mechanical properties of rolled EI253 steel joints welded with EP532 wire in protective gases, and figures show the microstructure of a butt weld and the microstructure of the metal deposited by EP532 wire. The results show that the strength of welds made with EP532 wire in argon, CO_2,

USSR

CHEKATILO, I. V., et al., Avtomaticheskaya Svarka, No 8, Aug 70, pp 50-53

and nitrogen is equal to that of the basic metal and that austenization increases weld plasticity.

USSR

KUCHERENKO, I. A. and [redacted]

UDC: 8.74

"Using the 'Economist' Algorithmic Language for Solving **Problems of Automatic Control Systems**"

Tr. N.-i. i proyekt. in-ta mekhaniz. i avtomatiz. upr. proiz-vom v avtomob. prom-sti (Transactions of the Scientific Research and Design Institute for Mechanizing and Automating Production Control in the Automotive Industry) No 2, 1971, pp 144-148 (from RZh--Matematika, No 7, 1972, Abstract No 7V595)

Translation: A system is described for automating the "Economist" program, its condition and capabilities. Typical procedures are determined for processing information realized by operators of the language. Stages of work with the system on an electronic computer, the possibilities of the translator, and the operational system are indicated. Results of the operation of the system are given.

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USSR

KUCHERENKO, I. A., PCHELINA, N. G.

UDC 8.74

"Use of the Ekonomist Algorithmic Language when solving Automatic Control System Problems"

Tr. N.-i. i proyekt. in-ta mekhaniz. i avtomatiz. upr. proiz-vom v avtomob. promsti (Works of the Scientific Research and Planning and Design Institute of Mechanization and Automation of Production Control in the Motor Vehicle Industry), 1971, vyp. 2, pp 144-148 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V595)

Translation: A system is described for automation of the Ekonomist programming, its composition and possibilities. The standard procedures for data processing realized by the operators of the language are defined. The steps in working with the computer system, the possibilities of the translator and the operation system are indicated. Results are presented from operation and maintenance of the system.

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USSR

UDC 681.3

PUTYATIN, Ye. P., PCHELINOV, V. P., PUTYATINA, G. M.

"Multicomponent Technical Systems for Analysis of Optical Information"

Probl. Bioniki. Resp. Mezhved. Nauchno-tekhn. Sb. [Problems of Bionics, Republic Interdepartmental Scientific and Technical Collection], No 4, 1970, pp 26-30, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V575 by the authors).

Translation: Problems of the design of multicomponent sensors for analysis of information on the spectral composition of radiation are studied. A three-component visual system is a particular case of such a system. A rigid decoding system including an analog-code convertor and decoder is suggested for recognition of information on radiation.

USSR

UDC: 8.74

SHABANOV-KUSHNARENKO, Yu. P., YERYOMIN, G. S., KACHKO, Ye. G., MARCHENKO, Yu. S., PCHELINOV, V. P., TISHCHENKO, V. V.

"On the Problem of Axiomatic Construction of Mathematical Models"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 6, pp 70-74 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1074)

Translation: Mathematical methods are proposed for describing objects which have known input and output signals. Authors' abstract.

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USSR

UDC 550.42

UKHANOV, A. V., and PCHELINTSEVA, N. F., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, USSR Academy of Sciences, Moscow, Moscow State University

"Gold Content of Peridotite and Eclogite Inclusions in the Obnazhennaya Kimberlite Pipe of Northern Yakutia"

Moscow, Geokhimiya, Akad. Nauk SSSR, No 2, Feb 72, p 247

Abstract: Mantle xenolites of kimberlite pipes are of great interest in connection with the inert behavior of gold during magmatic differentiation, but very little information has been collected on this subject.

The authors analyzed spectrochemically 25 ultrabasic inclusions from the Obnazhennaya pipe. Only insignificant secondary alterations, and unexpectedly low gold content, were found in the samples. The lowest Au content was that of the lowest-lying, high-magnesium rocks, the granitic pyroxenites (av. $1.2 \cdot 10^{-7}$ %) and granitic pyroxenites (av. $1.55 \cdot 10^{-7}$ %); the eclogites showed relatively high (but strongly variable) content (max. $4.5 \cdot 10^{-7}$ %). There was an evident positive correlation between gold content and vanadium content.

1/1

USSR

UDC 536.243

PCHELKIN, I.M., KALAKUTSKAYA, N.A. and PARFENT'YEVA, I.F.

"Effect of Length and Geometry of Laval Nozzle on Expansion of Water-Air Mixture"

Moscow, Teplo-Massopernos v. Odno-i Dvukhfaznykh Sredakh, 1971, pp. 38-51

Abstract: An experimental investigation was conducted of the flow of water-air mixture through a convergent-divergent Laval nozzle.

Four nozzles of different lengths were tested. All nozzles had approximately the same throat and exit diameters.

The jet reaction of the nozzle and the mass flow were measured. Since the jet reaction is equal to the product of the mass flow by the mean velocity, the latter could be calculated. Fig. 1 shows the mean velocity versus dryness for several values of the inlet pressure.

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PCHELKIN, I. M., et al., Teplo-Massopernos v Odno-i Dvukhfaznykh Sredakh, 1971, pp 38-51

The ratio of the gas velocity to the water velocity was calculated from known mass flows and specific weights of the two phases, it is shown on fig. 2.

The efficiency of the nozzle is defined as the ratio of the sum of kinetic energies of the two phases to the sum of their potential energy drops. The efficiencies of the shortest and longest nozzles versus inlet pressure for several values of dryness are shown on fig. 5.

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Heat, Combustion, Detonation

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UDC 532.529.5.001.5

PCHELKIN, I. M., KALAKUTSKAYA, N. A., PARFENT'YEVA, I. F.

"An Investigation of Expansion of the Water-Air Mixture in a Laval Nozzle"

Moscow, Dvukhfaznyye Potoki i Voprosy Teploobmena -- Sbornik (Two-Phase Flows and Questions of Heat Exchange -- Collection of Works), "Nauka," 1970, pp 15-25 (from Referativnyy Zhurnal, Teploenergetika, No 1, 1971, Abstract No 1G63)

Translation: In the article are presented the results of experimental investigation of the process of expansion of an air-water mixture in a Laval nozzle at initial pressures of 2 - 4 absolute atmospheres and dryness degrees of 0.02-0.30. Measurement of the nozzle thrust permitted determination of the true gas content of the mixture by volume at the cutoff, and of the phase slip. 14 figures, 2 tables, 8 bibliographic entries.

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STRIZHKOV, B. V., RUCHKIN, YE. D., KRIKOROV, V. S., [redacted], NIKITENKO, L. S., and KHROMOV, A. D.

"Production of Anhydrous Fluorides of the Yttrium Subgroup of Rare-Earth Elements"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 8, 1972, pp 1428-1433

Abstract: The anhydrous REM fluorides are a promising material for the manufacture of thin-film condensors by vacuum sputtering. One method of manufacturing anhydrous REM fluorides is by thermal decomposition of the hydrated fluorides of these elements. One shortcoming of this method is that dehydration upon heating may be accompanied by pyrohydrolysis. The method has not been fully studied. The present work studies the process of production of anhydrous fluorides of Y, Dy, Ho, Er, and Yb by thermal decomposition of their hydrates in air, in a current of a dry inert gas and in a vacuum. The methods of thermal, crystallooptical, x-ray structural, and chemical analyses plus IR spectroscopy were used to study the specimens. The dehydration of the fluorides was found to be a multistage process. Complete removal of the water of crystallization requires heating to 500-600°C (somewhat lower in a vacuum), apparently a result of the deep penetration of water molecules into the defective crystalline lattice of the fluorides. Initial

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Strizhkov, B. V., Ruchkin, Ye. D., Krikorov, V. S., Pchelkin, V. A., Nikitenko, L. S., Khromov, A. D., Moscow, Neorganicheskiye Materialy, No 8, 1972, pp 1428-1433.

dehydration removes all but approximately 0.5 mol of the water rather easily, after which dehydration is more difficult and apparently is accompanied by ordering of the crystalline structure of the substance. The temperature of complete dehydration can be reached only in a vacuum or in a current of a dry inert gas; otherwise, the process of pyrohydrolysis begins before the dehydration reaction is completed.

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AUTHOR-(02)-PCHELKIN, V.U., SMIRNOVA, R.S.

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